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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

BOLDA, ERIC L

ART UNIT

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/798,267	Applicant(s) SUGAYA ET AL.	
	Examiner ERIC BOLDA	Art Unit 3663	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 June 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-44 is/are pending in the application.
- 4a) Of the above claim(s) 12, 13 and 17-42 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2-11, 14-16, 43 and 44 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>5/13/2008, 6/9/2008</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. This Office Action is responsive to Applicant's amendment of April, 17, 2008.

Response to Arguments

2. Applicant's arguments, see pp. see pp. 15-17 of Remarks filed April 17, 2008 regarding the prior art rejection of claims 2-11, 14-16, and 43-44 have been considered but are moot in view of the new grounds of rejection. A new ground(s) of rejection is made in view of a new reference, that teaches the limitations introduced in the amended claims. See below.

Claim Rejections - 35 USC § 103

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
4. Claims 2-11, 14-16 and 43-44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Akasaka (US 6,292,288) in view of Muro et al. (US 6,823,107). The applied reference (Muro) has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under a 35 U.S.C. 102(e) date. This rejection under 35 U.S.C. 103(a) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

With regard to claim 2, 3, 14, 15, 43, and 44, Akasaka discloses in Fig. 1

- a Raman amplifier with an optical amplification medium (optical fiber) (2),

- a pumping light source (5) configured to generate a plurality of pumping lights having different wavelengths
- an optical device (coupler) (13) introducing a plurality of pumping lights to the optical fiber
- control means for controlling the pumping light source (20), Fig. 4

The clauses “capable of introducing said plurality of pumping lights...” and “said transmission station send out...” and “control means controls said plurality...” (claim 2) and “wherein said transmission station sends out...” , “said Raman amplifier controls said plurality of pumping...”, (claim 16 and claims 43-44) are essentially statements of intended or desired use, and appear optional. Thus, these claims as well as other statements of intended use do not serve to patentably distinguish the claimed structure over that of the reference. See MPEP § 2114 which states:

Note: in order to avoid a statement of intended use, language such as “configured to introduce...” is recommended. Because the Raman amplifier may be part of an optical communication system, a transmission station is inherently included. The plurality of monitor signals are therefore necessarily sent out at the transmission station. The monitor lights (equivalent to Applicant’s reference lights) sent to the pump controller are different from the rest of the signal light (main signal) and have wavelengths near the Raman peak gain obtained by the plurality of pump lights, corresponding to a frequency shifted by a Raman shift frequency (15th col. lines 33-40). The optical power of the reference lights is used by the controller (15th col. lines

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40-43). the output of the Raman amplifier of Fig. 1, being controlled by means of a controller using the monitor (reference) lights, obtains the result shown in Fig. 22. Clearly the output powers at the eight different wavelengths are equalized (flat within approximately 0.1 dBm), and their average is set to a predetermined average value, e. g. -30.1 dBm, -25.2 dBm, and -20.0 dBm in the Figure.

Akasaka does not disclose an automatic level control section, configured to control the optical powers of the pumping lights so that the average optical power of the reference lights is held to a predetermined value. However, Muro et al. teaches in optical amplifier in Fig. 4, a Raman amplification medium (1) being pumped by pumping lights (3), and an automatic level control (ALC) controller (25)(7th col lines 23-24), configured to control the pump lights so that the average optical power of the light monitored at (22) becomes a predetermined constant (7th col. lines 11-14]). It would have been obvious to one skilled in the art (e. g. an optical engineer) to incorporate the ALC of the Raman amplifier taught by Muro, into the Raman amplifier of Akasaka with equalization control, holding average of the monitor lights at a constant, for the purpose of allowing a greater dynamic range of input signals.

With regard to claim 4, the transmission station sends information on at least some of the monitor (reference) lights.

With regard to claims 5-6, the WDM signal light is arranged on frequency grids.

With regard to claims 7, the reference lights in the WDM light are detected at the photodiodes (19), and the optical powers of the monitor lights detected are equalized (gain flattened) (Akasaka, 15th col. lines 43-50).

With regard to claim 10-11, the control means utilizes the average value of the optical powers of the monitor light (Akasaka, 1st col. line39-41).

5. Claims 8-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Akasaka and Muro as applied to claim 7 above, and further in view of Sobe (US Pat. App. Pub. 2003/0117694). The applied reference (Muro) has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under a 35 U.S.C. 102(e) date. This rejection under 35 U.S.C. 103(a) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

With regard to claims 8 and 9, Akasaka discloses all the elements of the claim except, that the detecting means is an optical spectrum analyzer, and the detecting means comprises reflecting means. However, Sobe discloses in Fig. 9 an optical amplifier supplying a pumping light (30) via a coupler (62-1) to an optical amplification medium (10). The optical amplification medium is part of an optical transmission system. A monitoring light which is together with the WDM light (see para. [0241]) is transmitted along the optical amplification medium. The pump light has a plurality of different wavelengths (para. [0170]). The transmission station sends out a plurality of reference lights. The plurality of pumping lights are controlled via (65) based on the optical powers of the plurality of reference lights. the reference lights in the WDM light are detected by an optical spectrum analyzer (50-2). The reference light is selectively

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reflected at (61-2). It would have been obvious to one skilled in the art (e. g. an optical engineer) to use the optical spectrum analyzer and reflection as an alternative to the detection configuration of Akasaka, to decrease the number of optical filters used in the controller.

Note that the citations made herein are done so for the convenience of the applicant; they are in no way intended to be limiting. The prior art should be considered in its entirety.

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

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7. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Eric Bolda whose telephone number is 571-272-8104. The examiner can normally be reached on M-F from 8:30am to 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the Examiner's supervisor, Jack Keith, can be reached on 571-272-6878. Please note the fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Eric Bolda/

Primary Examiner, Art Unit 3663